

REMARKS

This application has been carefully reviewed in light of the Office Action dated October 23, 2002 (Paper No. 10). Claims 1 to 38 are currently in the application, of which Claims 14 to 25 have been withdrawn from consideration. Claims 1 and 26 are the independent claims currently under consideration. Reconsideration and further examination are respectfully requested.

Applicant thanks the Examiner for the indication that Claims 26 to 38 have been allowed. While Applicant has amended Claim 26 to remove the limitation of the deflecting surfaces of the light deflector and the surface to be scanned being brought into a substantially conjugate relation, Claim 26 is still believed to be allowable over the applied reference.

Applicant also thanks the Examiner for the indication that Claims 2 to 5 and 9 contain allowable subject matter and would be allowable if rewritten in independent form. Applicant has not rewritten these claims in independent form, however, since all claims currently under consideration in the application are believed to be in condition for allowance, as discussed in more detail below.

Claims 1, 6 to 8 and 11 to 13 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,185,029 (Ishihara); and Claim 10 was rejected under § 103(a) over Ishihara. Applicant has carefully considered the Examiner's comments together with the applied reference and respectfully traverses the rejections for at least the following reasons.

The present invention concerns a light scanning optical system which can be used in image forming devices such as laser printers and copiers. When using such a light

scanning optical system, a spot is imaged on a surface to be scanned to form a latent image thereon. According to the present invention, the quality of the formed latent image is improved by satisfying the condition  $0.8 \leq E_{\min}/E_{\max}$ , where  $E_{\min}$  and  $E_{\max}$  are defined as the minimum and maximum values, respectively, of a peak intensity in an effective scanning area of the imaged spot.

With reference to particular claim language, independent Claim 1 concerns a light scanning optical system that includes an incidence optical system for causing a beam emitted from a light source to be incident on a deflecting surface of a light deflector at a predetermined angle in a sub-scanning cross-section. The light scanning optical system also includes an imaging optical system for imaging the beam reflected and deflected by the light deflector on a surface to be scanned. When a maximum value and a minimum value of a peak intensity in an effective scanning area of a spot imaged on the surface to be scanned by the image optical system are defined as  $E_{\max}$  and  $E_{\min}$ , respectively, the following condition is satisfied:

$$0.8 \leq E_{\min}/E_{\max}.$$

The applied reference is not seen to disclose the foregoing features of the invention. In particular, the applied reference is not seen to disclose at least the feature of satisfying the condition  $0.8 \leq E_{\min}/E_{\max}$ , where  $E_{\min}$  and  $E_{\max}$  represent a minimum value and a maximum value, respectively, of a peak intensity in an effective scanning area of a spot imaged on a scanned surface.

Ishihara concerns an optical scanner in which light quantity distribution is controlled over an effective scanning range. However, Ishihara is not seen to disclose a

ratio of a minimum value of a peak intensity of a spot imaged on a scanned surface and a maximum value of a peak intensity of a spot imaged on the scanned surface. Rather, Ishihara is seen to concern the quantity of light or the total amount of light energy contained in a light beam. Therefore, Ishihara is not seen to disclose the feature of satisfying the condition  $0.8 \leq E_{\min}/E_{\max}$ , where  $E_{\min}$  and  $E_{\max}$  represent a minimum value and a maximum value, respectively, of a peak intensity in an effective scanning area of a spot imaged on a scanned surface.

Accordingly, independent Claim 1 is believed to be allowable over Ishihara. Reconsideration and withdrawal of the § 102(e) rejection of Claim 1 is respectfully requested.

The other rejected claims in the application are dependent from independent Claim 1 discussed above and are believed to be allowable over the applied reference for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing remarks, all of the claims currently under consideration in the application are believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California, office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,

  
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